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PRACTICE MAKES PERFECT: Soviet Air Support Doctrine  
and Its Tactical Application in Afghanistan

by  
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U.S. Air Force

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School of Advanced Military Studies  
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## ABSTRACT

PRACTICE MAKES PERFECT: Soviet Air Support Doctrine and Its Tactical Application in Afghanistan. By Major Terence L. Gilbert, USAF, 44 pages.

Since World War II, the Soviet military has maintained a strong belief in the importance of air support for ground operations. The Soviets believe that tactical air operations possess extraordinary flexibility and maneuverability to add depth to the battlefield and increase the tempo of combat operations. The Afghan War has been a perfect laboratory for them to test these precepts of airpower. In addition, it allowed the U.S. military a special opportunity to evaluate the application of Soviet air support doctrine in an actual combat environment.

This monograph reviews Soviet air support doctrine as it existed on the eve of the Soviet invasion of Afghanistan in 1979. Next, a detailed examination of its application in the Afghan War is presented to determine the overall success of the doctrine in a combat environment. How accurate were the Soviets in developing the right doctrine for the war they found themselves fighting in Afghanistan? How flexible were they in applying and modifying that doctrine?

The study concludes that the overall application of Soviet air support doctrine has been successful. At the tactical level, the employment of air assets reflected a general trend of continuity and the reinforcement of doctrinal concepts developed before the war. In particular, the successful use of the HIND attack helicopter made it the most effective and the most feared Soviet weapon in the theater. Training, pilot initiative, and discipline all seemed to suffer under the centralized command and control system of the Soviet military; nevertheless, the Soviet pilot showed the ability to adapt to the situation. Even more significant, the Soviets are applying the lessons they have learned in the Afghan War to improve the overall readiness of Soviet air forces in Central Europe.

PRACTICE MAKES PERFECT: Soviet Air Support Doctrine  
and Its Tactical Application in Afghanistan

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## SECTION I - INTRODUCTION

Christmas Eve, 1979, was a night of peace and good will for nations around the world. But the tranquillity of that night merely represented a special opportunity to the leaders of the Union of Soviet Socialist Republics. On the 24th of December, 1979, the armed forces of the Soviet Union crossed into Afghanistan in a lightning quick invasion of the country. It marked the first time Soviet troops had been used in a foreign country not already under Soviet control since the end of World War II. Between the 24th and the 27th of December, Soviet aircraft flew night and day into Kabul International Airport delivering the main part of a Russian airborne division into the city. By the 28th the capital of Afghanistan was under Soviet control and additional divisions were rolling into the interior of the country. The military effort in Afghanistan escalated rapidly and soon Soviet troops numbered in the tens of thousands.<1>

In the spring of 1940, the French faced a similar violation of their territorial sovereignty by the Nazi war machine of Adolph Hitler. Robert Doughty in Seeds of Disaster presents an in depth analysis of French military doctrine during the interwar period from 1919 to 1939. He concludes that, until their defeat in 1940, the French believed ". . . (their) doctrine . . . represented the best available thought on what would usually work best on the battlefield."<2> Earlier he observed that ". . . unfortunately for France, her army was prepared to fight precisely the type of war that Germany wanted to avoid."<3> Obviously neither the French nor the Germans knew what the true nature of the next war in Europe would be. Both simply endeavored to make a

best guess and hoped they weren't too far off the mark. While the Germans certainly were more accurate in their predictions, Doughty's book makes the point that French inflexibility in their doctrine greatly contributed to their defeat. The Soviet invasion of Afghanistan offers a similar opportunity to evaluate the success of their own prewar military doctrine. How accurate have the Soviets been in developing the right doctrine for the next war? How flexible have they been in applying and modifying that doctrine?

From the beginning the Soviet Air Force has been a significant force in the takeover of Afghanistan. In much the same way that the U.S. Air Force played a major role in the Vietnam War, the Soviet Air Force has developed a special identity with the Afghan War. Since World War II, the Soviet military has maintained a strong belief in the importance of air support for ground operations. Air assets are viewed as unique combat multipliers with extraordinary flexibility and maneuverability. The Soviets believe that these characteristics allow them to use aviation in key roles to add depth to the battlefield, increase the tempo of combat operations, and quickly respond to contingencies. The Afghan War has become a perfect laboratory for the Soviets to test these precepts of airpower. The war also gives the U.S. military a special opportunity to evaluate the successes and failures of Soviet airpower in Afghanistan. More importantly, Soviet air support operations may give a valuable insight into how they might fight against U.S. and allied forces in other theaters of the world. This monograph will specifically examine the tactical application of Soviet air support doctrine in Afghanistan.

To examine doctrine, however, you must first define it. Fritz Ermarth, in an essay in Soviet Military Thinking, defined doctrine as ". . . a set of operative beliefs and principles that in a significant way guide official behavior . . ."<sup>4</sup> Doctrine clearly impacts on every aspect of military capability including organization, training, equipment, command and control, missions, and tactics. Equally important is the understanding that doctrine is found at different levels and depths of detail. Today the Soviet military establishment acknowledges three types of doctrine to correspond with three levels of war: strategic, operational, and tactical. Given these three levels of war, tactical doctrine addresses the accomplishment of specific tactical objectives and the procedures and weapons systems employed to accomplish them. The aim of this monograph is to answer this question: Has the tactical application of Soviet air support doctrine in Afghanistan been successful?

First we will look at the tactical doctrine of the Soviet Air Force as it applies to the air support of ground forces. The focus will be on the existing doctrine of the late 1970's in order to help evaluate how successful the Soviets were in predicting the nature of their next military conflict. Next we will closely examine the application of doctrine to the war in Afghanistan, followed by a detailed analysis of that application. We should then have a clear picture of the flexibility of Soviet doctrine in the testing ground of actual combat operations. Having examined the doctrine and its practical application, this monograph will present concluding observations on the effectiveness of Soviet air support in this unique part of the world and the applicability of their operations to other potential conflict areas.

## SECTION II - SOVIET AIR SUPPORT DOCTRINE IN THE 1970'S

### Organization

The Soviet Air Force of the 1970's included three major components: Frontal Aviation (FA), Long Range Aviation, and Military Transport Aviation. The bulk of Air Force assets belonged to Frontal Aviation with over 5000 aircraft and more than 1000 attack helicopters. The sole purpose of Frontal Aviation was to serve as the tactical air arm of the Soviet armed forces; its role was similar in many ways to that of the U.S. Air Force's Tactical Air Command.<5>

Normally a squadron assigned to Frontal Aviation consisted of 12 aircraft divided into three flights; a FA division generally contained three air regiments of three squadrons each. The largest unit within Frontal Aviation, the air army, might have two to three divisions with a combination of fighter, fighter-bomber, reconnaissance, and helicopter assets (see figure 1). In peacetime, air armies were located in twelve of the Soviet Union's military districts and all four groups of Soviet forces abroad. While the Soviet Air Force exercised administrative control over these air armies, operational control rested with the commanders of the military districts or groups of forces abroad. In time of war, the ground armies and air forces of these commands combined to form fronts within specific theaters of strategic military action (in Russian - "teatr voyennykh deystviy" or TVD). The air armies then became operationally subordinate to the front commander. The front, similar in structure to an army group, would be responsible for attaining operational level military objectives in support of the TVD commander's overall strategic plan.<6>

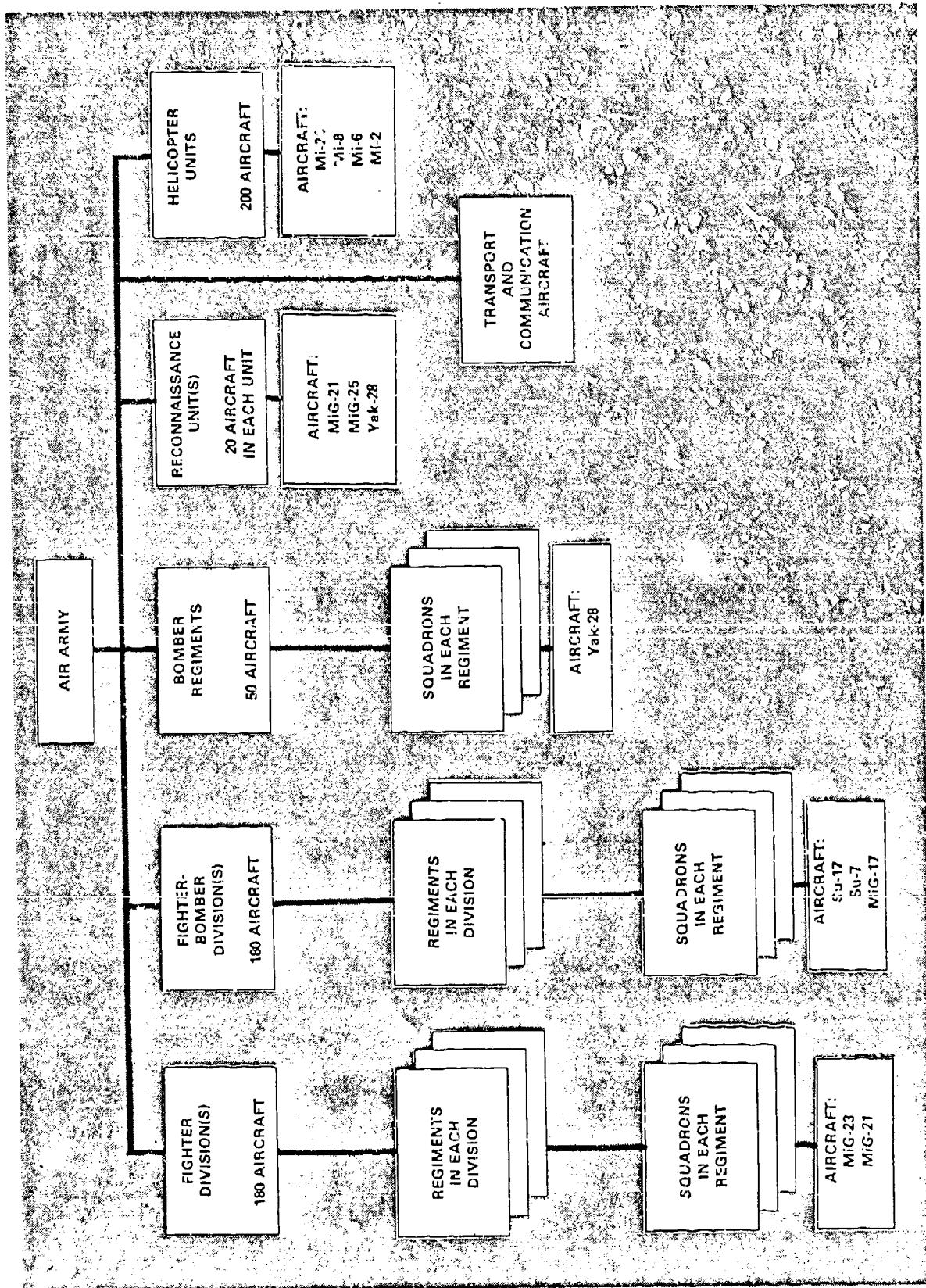


Figure 1.

Organization of a Typical Frontal Aviation Air Army.

### Missions

Doctrinally, the Soviets believed they must win the air superiority battle first and then devote their attention to providing air support. As a result, the TVD commander would initially keep a number of Frontal Aviation squadrons under his direct control to conduct an independent air operation for control of the air. As the operation concluded, these squadrons would return to their appropriate air army to be used for air support missions and to maintain local air superiority for the front.<7>.

Soviet doctrine outlined three primary missions for FA units providing air support to Soviet troops in the offense: air preparation, direct air support, and air accompaniment. Air preparation would take place prior to the onset of ground operations with aviation units striking those targets beyond the range of conventional artillery and rockets. Direct air support would begin once ground forces launched their attack; targets would be along the forward edge of the battle area (FEBA) to the immediate operational depths of the enemy (probably the corps rear of a U.S. ground force). Although missions normally were part of a preplanned fire support scheme, "on-call" missions against unanticipated centers of resistance might also be executed. As Soviet units successfully penetrated enemy defenses, the next phase of air accompaniment would begin. Once ground forces started to exploit their initial tactical success, their rapid forward movement probably would outpace the fire support capabilities of most artillery units. At that point, Frontal Aviation units would provide the vast majority of fire support to the exploiting ground force.<8>

Soviet air support in the defense also would be integrated into an overall defensive fire support plan. Frontal Aviation units would continue to fly missions from the FEBA to the operational depths of the enemy. The objective of all air support in this phase would be to preempt the attack plans of the enemy by disrupting his tempo and momentum. Aerial counterpreparation and counterattack plans would be developed in detail and incorporate both fixed wing and rotary wing assets.<9>

Soviet air support doctrine made no mention of concepts such as air interdiction, battlefield air interdiction, or close air support. While air accompaniment certainly included the use of air assets against deep targets, the term was not synonymous with air interdiction. Nor can one conclude that Soviet direct air support was the same concept as U.S. close air support. The distinction becomes significant when considering how the Soviets planned to use fixed and rotary wing aviation in the air support role. The Soviets believed that the use of fighter and fighter-bomber aircraft to strike targets along the FEBA, while not prohibited by doctrine, was rarely justified. Recognizing the unique capabilities of the attack helicopter, the Soviets planned for rotary wing assets to provide air support to troops in close contact with the enemy while "saving" their fixed wing assets for deep targets. Proper use of fixed wing aircraft, in the Soviet view, dictated targeting them against enemy nuclear weapons facilities, rear logistics areas, air bases, and command and control centers.<10>

#### Command and Control

The planning and coordination of air support operations were highly centralized activities that took place primarily at the front and army

level. The front commander with operational control of the air army dictated targeting and strike priorities for FA units. The air army commander, also serving as the chief of aviation for the front commander, retained responsibility for mission execution; aviation units usually were not attached to ground units as part of their organic structure. In addition to the close working relationship that would exist between the front and air army commanders, Combat Control Centers (CCCs) would be collocated with the air defense headquarters of the front commander and his subordinate ground army commanders. These centers staffed with senior officers from the air army were responsible for the overall supervision and monitoring of air activities at the front and army level. Their collocation with the air defense headquarters allowed the air units to maximize their integration with air defense and artillery fires. In addition, the air defense headquarters would normally be placed near the ground commander's main command post to allow integration of all combat operations.<11>

As front and army commanders developed their initial plans, warning orders would be issued advising both air and ground units of an impending combat operation. Use of the warning order allowed these units to begin what the Soviets called "concurrent planning" (also known as "parallel planning" in the U.S. military). Using concurrent planning, aircrews started to familiarize themselves with probable targets and appropriate tactics while ground commanders continued to refine their plans. At the division level, commanders developed their plans in detail for the first two days of combat and in "outline form" for following days to include requirements for direct air support

missions. The front commander allocated both preplanned and "on-call" (or immediate) missions based on the needs of the divisions. This allocation was in terms of number of sorties for preplanned missions and time blocks of available aircraft for immediate missions. Air defense missions for offensive airstrikes would also be planned by the front CCC in conjunction with front air defense personnel. This would include fighter cover to be flown over units receiving direct air support from FA units.<12>

In addition to front and army CCCs, aviation personnel from air divisions or regiments also formed control elements called combat control groups (CCGs) to assist commanders at the division and lower. The CCG advised the ground commander on the proper use of available air assets and coordinated the air support missions being flown in his area of responsibility. Within the CCG was at least one forward air controller or air guide with a specially equipped BTR-60 to control airborne aircraft and also communicate with higher headquarters. Generally he was a rated air force pilot from the supporting air army headquarters. Just like his U.S. counterpart, the air guide advised the ground commander on the use of air assets, passed air support requests to higher headquarters, and directed missions in support of the unit. Normally the lowest level one would expect to see the CCG or an air guide would be at the regiment. In some cases, air guides operated with battalions but it was not a normal practice.<13>

Air force personnel also would be responsible for operating vectoring and target designation points (VTDP) and radio navigation points (RNP). VTDPs usually would be located approximately 30

kilometers from the FEBA and provided airspace management, air defense coordination, and limited ground-controlled intercept (GCI) capability. RNPs functioned as beacons for aircraft to use in navigating to and from the target area. While VTDPs and RNPs did not have a role in planning air operations, they were critical in providing the centralized control essential to the Soviet system of air support.<14>

In practice, the Soviet system of control and execution was very similar to the U.S. close air support scheme. At the direction of the ground commander, requests for immediate air support would be initiated by the unit's CCG and forwarded to the parent CCG at division headquarters. They were then passed to the army CCC; if aviation assets were unavailable at that level, the front CCC would finally receive the requests for air support. Aviation units were then tasked through the air army chain of command to execute air support missions. For preplanned missions, pilots were prebriefed on the target area, time-on-target (TOT), radio frequencies, and navigation aids available for the flights. These briefs were normally conducted by the air guide who would control the flight in the target area. Pilots flying immediate air support missions would have some generalized information on the nature of the mission since the aviation unit would know what ground unit it was supporting, where the main effort was, and the general axis of advance. However, the degree of detail would not be the same as for a preplanned air support mission.<15>

Once airborne, flights were controlled by either visual navigation, radio/radar navigation, or a combination of the two techniques. Aircraft attacking point targets deep in the enemy's rear would utilize VTDPs and RNPs until they exceeded the reception range of these

navigational aids and then continue to use visual navigation over a preplanned route. The front CCC would use phase lines, area deconfliction, and timing deconfliction to coordinate these deep strikes. In addition, the use of safe passage corridors and altitudes reflected the ability of FA units to route their flights through existing air defense networks. Aircraft flying direct air support missions would follow similar navigation procedures and then be under the control of air guides once in the target area. These air guides would use radio communications with the flights to control air strikes as well as divert planes from other missions (if directed by higher headquarters). The use of flares, smoke pots, marking panels, and artillery spotting charges helped designate targets within a particular grid area to be attacked.<16>

#### Equipment and Tactics

In the late 1970s, upgraded ground attack versions of the MIG-21/FISHBED, as well as newly operational fighters such as the SU-17/FITTER C, MIG-27/FLOGGER D, and SU-24/FENCER provided the bulk of fixed wing assets for air support. Compared to earlier FA aircraft, these new fighters offered substantially better range, payload, and avionics capabilities that significantly improved the overall mission potential of FA units. Tactically, these assets were normally employed in small "packages" of two to eight aircraft (organized in flights of two or four) against deep targets such as enemy rear areas, command and control facilities, air bases, and nuclear weapons sites. As noted earlier, the Soviet Air Force believed that high performance, fixed wing aircraft were much more valuable in deep penetrations of enemy air space

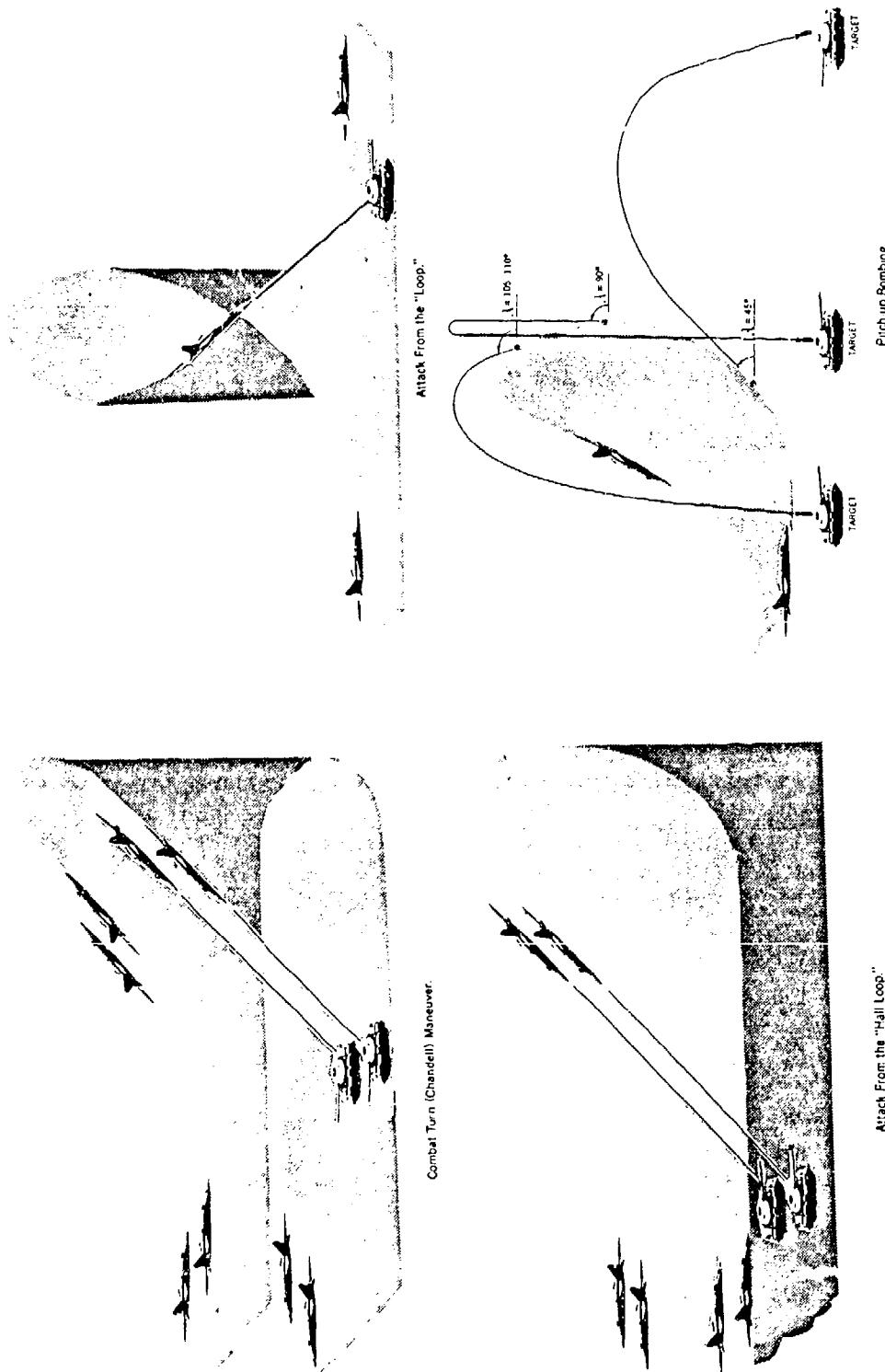
while rotary wing helicopters would be used against targets near front line troops.<17>

Intending to use fixed wing assets in deep strikes, Soviet commanders would assign targets that did not change position for a prolonged period of time. Pilots then were able to accomplish some degree of preplanning to include photo and map interpretation, navigation route study, and target area tactics. Soviet planners occasionally would task units to conduct armed reconnaissance missions or what they termed "free hunting" flights, but using FA assets in this fashion would be very unlikely in most situations. In a high density antiaircraft defense, the Soviets planned to use low altitude ingress and egress (50 to 100 meters) to avoid engagements by enemy surface-to-air missiles (SAMs). They also recognized the potential threat of antiaircraft artillery (AAA) and small arms fire and sought to avoid the stereotyped use of these low altitude tactics. In the target area, the Soviet norm for completing an attack was ten seconds to reduce the exposure to enemy air defenses. This ten second norm allowed three to six seconds to escape the immediate target area. Extensive use would be made of surprise attacks from multiple directions, decoys, and diversions to complicate the air defense of a target area.<18>

In attacking the target itself, Soviet pilots generally planned to attack using one of four possible maneuvers: the combat turn, the half loop, the loop, or the pitch-up (see figure 2). The combat turn or chandelle described a low altitude approach followed by a climbing 180 degree turn to the left or right to acquire the target and release ordnance. Similar to the pop-up attack practiced by U.S. tactical fighter pilots, the maneuver appeared to be one of the most preferred by

Soviet Fixed Wing Attacks

Figure 2.



the Soviets particularly in a high density SAM environment. The half loop was very similar to the chandelle except the pilot executed his turn to acquire the target strictly in the vertical plane. Such a maneuver would facilitate weapons deliveries from higher altitudes to stay above small arms and AAA fire. Pilots flying a loop attack would overfly the target and then execute a vertical loop to engage it. The loop attack would be useful on a "free hunting" mission with pilots looking for targets of opportunity. When flying the pitch-up maneuver, the pilot would ingress at low altitude and then execute a climb at a predetermined distance from the target. A computer would then release the bomb which is lofted to the target while the aircraft turns and departs the area. Most likely this attack would be used for delivery of chemical or nuclear weapons to maximize standoff distance for the aircraft.<19>

The late 1970's also saw the Soviet military rely increasingly on its attack helicopter assets to provide direct air support for troops along the FEBA. In Soviet terms, the attack helicopter would be used to support close combat operations with troops along the front line (the front line being defined as the line of contact with enemy forces).<20> The MI-24/HIND and later the MI-8/HIP E were formidable weapons systems that proved to be the mainstay of Soviet attack helicopter operations. Employed in the direct air support role, helicopters were capable of flying immediate or preplanned missions as well as independent, "free hunting" sorties. In addition, ground commanders could plan to use helicopters to support a tactical fire sack or ambush. While the direct air support role might be the primary mission for the Soviet attack helicopter, doctrine did not preclude its use in air preparation or air accompaniment roles as well.<21>

Tactically, attack helicopters would rarely operate alone; the usual employment would be as a flight of two or four. Command and control of helicopter assets would follow the same procedures outlined for use with fixed wing aircraft. Once in the target area, a flight of Soviet attack helicopters, under the control of an air guide, would descend to low altitude and prepare to engage targets. Operating as pairs, the flight leader would climb high enough to identify the target (no more than 50 meters if possible) and then deliver his ordnance in a shallow dive. Soviet attack helicopters have a reputation for poor hovering characteristics and weapons employment normally would not be from a hover. Using a dive delivery forces the helicopter to continue to fly towards the target, but it also allows the pilot to maintain airspeed for evasive maneuvers, enhances stability, and requires less power. Once the leader has fired, the wingman then executes the same weapons delivery. If the helicopters are organized as a flight of four, the second pair would provide suppressive fires while the first pair execute their attacks. Once having fired, the flight would move to another firing position to reengage the enemy.<22>

While attack helicopters, fixed wing aviation, and artillery fires might coincide in terms of time, they usually would be assigned separate sectors to deconflict fires. The Soviets found it possible to utilize helicopters and artillery fires simultaneously under certain circumstances, but strict coordination was required. For simultaneous fires, artillery would initially be used for suppressive fires while helicopters approached the FEBA to engage enemy targets. The artillery would then switch fires from the corridors used by the approaching helicopters to hit targets on the "flanks" of the corridor. In cases of

extremely close cooperation, planners worked out fire plans that allowed helicopters to pass under high trajectory artillery fires which then ceased once the helicopters arrived on station. This technique required altitude requirements on helicopter running and carefully coordinated cutoff times for artillery fires.<23>

Training

Of course the survivability and effectiveness of both fixed and rotary wing aircraft in combat is directly dependent upon the nature of peacetime training programs. In the Soviet Union, a typical Frontal Aviation pilot flew approximately 130 hours per year while most NATO pilots were required to fly a minimum of 240 hours per year. This differential was particularly evident in the winter months when Soviet pilots might fly only four or five hours in the space of a 30 day training period.<24> While major Soviet training exercises always included the employment of FA units in the air support role, air force units themselves appeared to have infrequent training periods and unrealistic flight training (particularly in night and bad weather operations). Some analysts believed during this time frame that Soviet pilots spent only sixty percent as much time training as their U.S. counterparts and strongly criticized the lack of initiative and independent thinking displayed by most Air Force pilots. Additionally, reports often circulated of reduced flying by Warsaw Pact pilots in an effort to save aviation fuel. Finally, the use of centralized maintenance depots to perform most major aircraft repairs resulted in Soviet aircraft being off the flying schedule for extended time periods and unavailable for pilot training.<25>

Soviet air support doctrine placed a heavy emphasis on the need for close cooperation between ground and air units; the result was the

collocation of their respective headquarters and the forward deployment of command and control facilities. This enhanced the ability of Soviet commanders to centralize the control and execution of air support missions as well as closely integrate air, air defense, and artillery fires. The Soviets developed a system of simplicity and strictness, but possibly at the expense of individual initiative and agility.

Much like the French and German doctrines developed during the interwar period, Soviet air support doctrine in the 1970s was an educated guess often based on the experiences of a war fought decades earlier. The Soviet military certainly had little idea of where the next conflict would be, but once fighting started they knew they would have to apply and modify existing doctrine. The next section of this monograph examines the practical application of Soviet air support doctrine in the Afghan War.

### SECTION III - THE AFGHAN WAR

#### Historical Background

Since the days of tsarist Russia, Afghanistan has tried to maintain a carefully balanced political stability with its neighbor to the north. The Russians viewed Afghanistan as a buffer between their country and the British presence in south-central Asia; twice the British invaded Afghanistan out of fear that Russia would further extend its influence into the region.<sup><26></sup> In more recent times, the developing conflict between United States and Soviet interests brought a new focus to Afghan politics. In 1955, John Foster Dulles helped set up the Central Treaty Organization (CENTO) as part of a global barrier

against growing Soviet encroachment. Unfortunately, Afghanistan's policy of nonalignment resulted in its being outside the protection of CENTO alliances. As a consequence, the nation found itself increasingly vulnerable to the advances of the Soviet Union as it searched for new buffer states to offset the "security perimeter" set up by the U.S.<27>

The Marxist coup of 1978 in which Noor Mohammed Taraki overthrew President Mohammed Daoud presented a special opportunity for the Soviets to increase their presence in Afghanistan. Although able to expand their influence into the country, the Soviets continued to experience resistance. Particularly recalcitrant were the Muslim militants and uncooperative tribesmen who had been conducting a prolonged rebellion for their own independence. On the 14th of September 1979, Taraki found himself the victim of a palace coup led by his former prime minister, Hafizullah Amin.<28>

As the rebellion in the countryside continued to gain momentum, the Soviets repeatedly asked Amin for permission to bring ground combat forces into the country to put down the insurgency. Amin was adamant in refusing such permission, proving himself more independently minded than was acceptable to the Soviet government. On the 24th of December 1979, the Soviets asked Amin one more time for permission to bring forces into Afghanistan; again he refused. That evening Soviet troops began to airlift into the city of Kabul; three days later the Soviets installed a former deputy prime minister, Babrak Karmal, as the new president of the country. By the 28th of December, the capital of Afghanistan was entirely under Soviet control and the invasion was in full swing.<29>

#### Military Overview

Undoubtedly, the Soviets expected to conclude this military action in the space of one or two years. Instead the insurgency has evolved

into one of the longest and bloodiest guerrilla wars of the twentieth century. The military involvement in Afghanistan can be described best in terms of three phases of action.

The first phase, from the initial invasion to the fall of 1980, saw the introduction of large units into the interior of Afghanistan in an attempt to pacify the countryside quickly. By early 1980 the Soviet Union had over 80,000 troops in Afghanistan under the command of the 40th Combined Arms Army (CAA) headquartered at Kabul. Western analysts estimated that the Soviet ground order of battle for the 40th CAA included four motorized rifle divisions, one airborne division, and several independent brigades or regiments (including one air assault brigade).<sup><30></sup> During the early part of this phase, Soviet planners intended to use Democratic Republic of Afghanistan (DRA) troops to pacify the insurgency and Soviet units would merely relieve the DRA army from garrison duty. Despite the expectation that rebel forces would be cowed into submission by the simple presence of Soviet forces, the insurgency actually picked up in intensity. By the end of the year, it was estimated that the rebels held over 75% of the country and the only areas under "secure" control by the Soviets were the major cities such as Kabul.<sup><31></sup> It was apparent that Soviet troops would have to remain in Afghanistan for the long term. The Soviet strategy now centered on holding major centers of communication, controlling infiltration by the rebels, and destroying local guerrilla strongholds while limiting risk to friendly forces. The Soviets also recognized that the nature of the insurgency required a different type of tactics and gradually moved from division-level operations to the use of the reinforced battalion as the primary combined arms unit on the battlefield.<sup><32></sup>

The winter of 1980 marked the beginning of small unit offensives that would characterize the second phase of the war in Afghanistan. Using the reinforced battalion as the key tactical element on the battlefield, the Soviets conducted autonomous deep operations to reestablish government control in the 29 provinces of Afghanistan. While some successes were achieved by Soviet-DRA troops, the failure of the pacification effort to control the Panjshir Valley was a major victory for the mujahidin rebels.<33>

By the spring of 1983, the Soviet Union had more than 100,000 troops in Afghanistan. Nevertheless, they still had failed to achieve significant success through the use of regular combat forces. The third and current phase of combat operations began with the Soviets transitioning to the use of special operations forces to combat the resistance. In this phase, the Soviets started to target the economic and political support of the guerrillas by attacking the outlying villages that served as rebel strongholds. Believing that an impoverished and starved peasant population would eventually refuse to support the mujahidin, a modern day "scorched earth" strategy was put into effect across the entire country. Major operations using desant (air assault) and spetznaz commando units to conduct deep raids against rebel bases have proved effective, but the Soviets do not appear to be any closer to an overall resolution to the war.<34>

#### The Air War

From the beginning the Soviets paid special attention to the use of airpower in the Afghan War. The first troops to become directly involved in suppressing the mujahidin rebellion were Soviet pilots who actively participated in combat missions as early as April 1978.

Massive involvement by the Soviet Air Force, in particular Frontal Aviation units, began in early November of 1979 just prior to the Christmas Eve invasion.<35>

Frontal Aviation assets in Afghanistan were subordinate to the commander of the 40th CAA; the senior Soviet Air Force officer in Afghanistan was the 40th's Chief of Aviation. According to early estimates, the Soviets had eight 12-aircraft squadrons based within the country as well as a number of independent helicopter regiments. Combat missions frequently were flown by FA units based in the Soviet Union.<36> Early in the war the Soviets took control of the Afghan Air Force as well. Afghan pilots generally were not allowed to fly on their own; Soviet personnel formed part of most aircrews and were always in charge. Afghan helicopters were usually assigned to non-sensitive areas and a Soviet officer accompanied the helicopters to oversee the operation.<37>

Soviet leaders quickly recognized the dramatic impact of Frontal Aviation aircraft in counterinsurgency warfare. Air support operations allowed ground commanders to target rebel forces with excellent results while at minimal cost to their own forces. Given the absence of an enemy counterair threat, Soviet FA units were able to devote almost all of their assets to the air support role. However, the use of fixed wing aircraft in a counterinsurgency presented special problems for Soviet planners. The mobility and rapid pace of combat in a guerrilla war resulted in limited opportunities for the Soviets to employ their fixed wing assets on direct air support missions. Nevertheless, fighter-bomber aircraft were used extensively to bomb point and area targets as part of an overall Soviet strategy to deny the rebels any freedom of

movement. As a result, fighter-bomber aircraft frequently attacked guerrilla bases, safe haven areas, and mountain strongholds in support of this denial policy while attack helicopters flew the majority of air support missions for troops in close combat. The attack helicopter has been the single most effective weapon the Soviets have used against the Afghans and has proved to be extremely successful in conducting counterinsurgency warfare.<38>

#### Fixed Wing Tactics

During the early part of the Soviet involvement in Afghanistan, Frontal Aviation relied heavily on the MIG-21/FISHBED in the air support role. Unfortunately the MIG-21 was originally designed as an air superiority fighter and ground attack versions of the FISHBED were ill-suited for the air support missions it flew within the theater. In 1980 the Soviets were able to start employing the SU-17/FITTER and the MIG-27/FLOGGER D; both aircraft were specifically designed to perform the missions of air support.<39>

Even after the arrival of more and better aircraft, Soviet fixed wing pilots were not getting high marks for their combat skills. According to the reports of one western journalist who witnessed several Soviet attacks, the pilots showed a hesitancy to "press home their attack" and were overly fearful of the limited AAA fire put up by the rebels.<40> At the time, the only counterair threat to Soviet air support was small arms and optically guided AAA fire (primarily 12.7 and 14.5 mm machine gun). Later the guerrillas received some limited numbers of the SA-7/GRAIL; the GRAIL is a man-portable, surface-to-air missile built by the Soviet Union. These SA-7s were delivered by Afghan army defectors and that source was quickly cut off as the Soviets removed the missile from all Afghan army units.<41>

Despite the absence of a significant SAM threat and a limited AAA capability on the part of the rebels, the first missions of Soviet fixed wing aviation were particularly cautious and ineffective. Forced into higher altitude weapons deliveries due to the perceived AAA threat, pilots were observed dropping bombs well short of enemy targets and firing rockets obviously beyond their effective range.<sup><42></sup> As these pilots gained proficiency in the higher altitude deliveries and became less fearful of the AAA threat, their mission success markedly improved. In 1982 the Soviets began to use the SU-24/FENCER against key targets that required a high degree of accuracy. The Fencer, flown by units based within the Soviet Union, proved extremely effective in this role.<sup><43></sup> Additionally, the arrival of the SU-25/FROGFOOT that same year significantly improved the air support capabilities of Frontal Aviation units in Afghanistan. The FROGFOOT, similar in function to the U.S. Air Force's A-10, was considered by the mujahidin the most effective fixed wing air support aircraft employed by the Soviets. Its use in Afghanistan marked the first operational deployment of the airplane.<sup><44></sup> Despite the addition of aircraft such as the FROGFOOT which certainly were capable of executing missions to support troops in close combat, the Soviets continued to leave that responsibility almost exclusively to the attack helicopters. Regardless of the improvement in aircrew and aircraft capabilities, fixed wing aircraft were seldom used to support troops in close contact with the enemy.<sup><45></sup>

Soviet fixed wing attacks appeared to vary little from the doctrinal formations practiced in the Soviet Union. Aircraft generally operated in flights and attacks against high priority targets often involved packages of two to eight aircraft. One tactical variant did

develop as the Soviets became more concerned about the possible threat of SA-7s being used; one member of the flight often would circle overhead releasing flares to counter heat-seeking missiles while the other aircraft would execute its attack. Additionally, aircraft were observed releasing flares as they completed bombing or rocket attacks against rebel positions.<46>

Soviet munitions used during these attacks usually were 23 mm cannon fire, 57 mm rockets, and a number of different general purpose and cluster bombs. As FA units became more involved in conducting attacks against civilian targets to disrupt popular support for the rebellion, a variety of other munitions were also employed. Napalm or newer fuel-air explosives and white phosphorous bombs have been used to destroy crops and other food sources for the mujahidin.<47> The Soviets have used the aerially delivered PFM-1 "butterfly" mine as an area denial munition, particularly to control the night movements of the rebels. The controversial employment of chemical weapons also appears to be almost exclusively by air, but an in depth discussion of its use is beyond the scope of this paper.<48>

#### Rotary Wing Tactics

The Soviets have relied heavily upon the attack helicopter to provide air preparation, direct air support, and air accompaniment. Specifically, the nature of the insurgency in Afghanistan has made the MI-24/HIND attack helicopter the most effective as well as the most feared Soviet weapon in the theater.

Unfortunately, the early employment of attack helicopters did not proceed smoothly. Early HIND tactics reflected a certain disdain on the part of the Soviets for their enemy. Helicopter pilots often operated

from exposed and highly vulnerable positions; in some cases, they would stop and engage the Afghan rebels from a hover at very low altitudes. Normally HIND attacks would be made in a dive from a 1000 meter altitude with the helicopter breaking away at the end of the pass to reposition for another attack. Operating in flights of two or four, the attack helicopters often deployed from a circular pattern similar to the American "wheel" used in the Vietnam War.<sup><49></sup> While small arms and AAA fires posed a very limited threat to fixed wing aircraft, it was a significant problem for helicopters operating at slow speeds and low altitudes. Additionally, the limited numbers of SA-7s possessed by the mujahidin were used very effectively against rotary wing aircraft.

Helicopter pilots also appeared poorly trained to operate in the stark environment of Afghanistan. Given the low power to weight ratios of most Soviet helicopters, it is extremely difficult to hover under normal conditions; maneuvering problems are compounded by the mountainous, rocky terrain that characterizes much of the country. Flyers frequently are subjected to intense dust storms that virtually shut down all flying operations and are a nightmare for maintenance personnel trying to protect their aircraft. Soviet leaders apparently ignored these operational difficulties and chose to educate their pilots by simply gaining experience in the theater. In the words of one Soviet pilot, ". . . No wonder they say that after a month in Afghanistan helicopter pilots can be awarded the top proficiency rating without testing their piloting ability."<sup><50></sup> The costs of "training" in Afghanistan have been expensive. Some analysts estimate that as many as

80 to 85 percent of the helicopter losses in the theater have come from accidents as a result of pilot error or mechanical failure.<51>

Early in the war pilots were also criticized for their lack of tactical flexibility and initiative when flying combat missions. The Soviet press openly criticized attack helicopter units for blundering into concentrated AAA defenses, failing to take evasive action when fired upon, and attacking positions that the enemy had already vacated.<52> Afghan rebels reported numerous cases of HIND helicopters catching guerrilla groups in the open but continuing on course rather than stopping to attack. The guerrillas felt it was obvious that the pilots had been briefed to attack another target, probably the position they had just left.<53>

Higher than expected combat losses in the early part of the war forced attack helicopter pilots to reexamine the effectiveness of their tactics. Realizing that the rebels possessed a credible, if limited, counterair capability against rotary wing aircraft, the Soviets returned to the tactics they had refined for high intensity, European warfare. Starting 7 to 8 kilometers from the threat, HIND helicopters would run in at low altitude to avoid the SAM threat and then execute a "pop-up" maneuver to engage targets. Shots were now taken at maximum ranges whenever possible to remain clear of the small arms and AAA weapons of the guerrilla forces. Mutual support was reemphasized as it has always been an important part of Soviet helicopter tactics. One tactical variant has been to send one helicopter in at high altitude to draw fire while its wingman remains hidden at low altitude to engage whoever opens fire. Additionally, helicopter regimental commanders began to support the use of scout helicopters to assist in target acquisition. The scout

would often stay high and out of range of the target; it would then use its better field of view to direct attack helicopters in their engagements similar to an airborne forward air controller.<sup>54</sup> To improve the flexibility of direct air support operations, the Soviets started to attach FA helicopter units to division-level headquarters to develop a closer integration between air and ground forces fighting the guerrillas. Furthermore, Soviet ground commanders were actively criticized for failing to use the aviation assets put at their disposal effectively. In addition to direct air support missions, attack helicopters started to be used in an air accompaniment role to escort Soviet columns or convoys deep into enemy territory. All these measures were taken to increase the responsiveness and flexibility of the Soviet air support system; the attack helicopter became the decisive weapon in the Soviet counterinsurgency.<sup>55</sup>

#### Impact of the Stinger

A major advantage for the Soviets in Afghanistan has been the ability of Frontal Aviation to operate with relative impunity on the battlefield. Rebel air defenses would be best described as limited in nature; prior to 1985, probably no more than 20 aircraft per year could be counted as combat losses.<sup>56</sup> However, in 1986, the U.S. government decided to supply the mujahidin with Stinger man-portable SAMs; the decision was made as part of the "Reagan Doctrine" supporting anti-Marxist insurgencies. Between September 1986 and August 1987, about 1,150 Stinger and British-made Blowpipe missiles were shipped to the rebels. While a sizeable portion were lost enroute to the guerrillas, it was estimated that almost 900 of the missiles reached camps in Afghanistan for use against the Soviets.<sup>57</sup>

The arrival of the Stinger gave the mujahidin a significant air defense capability that had been missing up to now. The impact on Soviet air support was almost immediate. Fixed wing aircraft were forced to increase weapons delivery altitudes to as high as 10,000 feet above the ground to avoid the major part of the Stinger's missile envelope. The result was a significant decrease in bombing accuracy. Attack helicopters often avoided pitched battles altogether or tried to fly at low altitudes where they were once again vulnerable to AAA fire. According to U.S. Defense Department officials, the Soviets are losing approximately one aircraft per day to the improved air defense capabilities of the guerrillas. More significantly, the degradation in Soviet air support forced their ground troops to operate almost autonomously without many of the aviation assets they have been accustomed to using in the past. Whether the arrival of the Stinger has become the turning point of the Afghan War remains to be seen, but it is apparent that the missile has at least temporarily frustrated overall Soviet efforts to end the insurgency.<58>

#### SECTION IV - ANALYSIS

In Section I of this monograph, doctrine was defined as a set of officially sanctioned beliefs that guide the behavior of a military force. Tactical doctrine obviously had a major impact on the Soviets by carefully dictating the proper employment of personnel and weapons systems to accomplish specific tactical objectives. The officially sanctioned doctrine of Soviet air support affected the organization, training, command and control, missions, and tactics of the aviation

units that fought in the Afghan War. This section will analyze the successes and failures of Soviet air support doctrine in these critical areas.

In terms of organization, as well as command and control structure, the Soviet Air Force found itself facing a unique situation in Afghanistan. According to doctrine, Soviet war plans called for the establishment of fronts to direct the military actions within a particular theater of operations. Nevertheless, the invasion of Afghanistan was under the direct control of an army commander. Consequently, Frontal Aviation units were directly assigned to the army rather than operating as an air unit subordinate to a front commander. While doctrine did not preclude the attachment of aviation units to a ground army, it was not a normal practice. In reality, the 40th Army provided the structure and function of a front for those aviation units assigned to support it and no significant organizational problems developed for Frontal Aviation. The Soviets' failure to set up a front to run the invasion probably was based on their expectation of a short duration contingency rather than a lengthy counterinsurgency. Later, as the war dragged on, the Soviets apparently found it necessary to establish a more "doctrinally correct" command structure for the overall coordination of theater strategy. In 1983, Western reporters noted the establishment of a "Southern TVD" at Tashkent under the command of Marshall Sergei Sokolov with responsibility for the entire Persian Gulf area.<59>

Early in the war, the Soviets did find it necessary to reorganize the regional air defense assets of PVO Strany which were not under the command of the Soviet Air Force. In order to create a more unified air

command structure, the Baku Air Defense District was abolished and its interceptor aircraft and local airfields transferred to the Soviet Air Force. The Soviets later reorganized all air assets within the Soviet Union along the same lines.<60> It is also interesting to note the attachment of FA helicopter assets to individual divisions in Afghanistan. In an effort to improve the integration of attack helicopters and ground maneuver units, the Soviets actually decentralized their assets. Such thinking clearly shows the Soviets are not always tied to doctrine, but are flexible enough to consider and implement other alternatives for a more effective organization. Again, the decentralization concept has been carried back to the "homeland" and selected Soviet divisions now have their own organic helicopter squadrons as part of what the Soviets refer to as "army aviation".

Overall, the Soviet tactical organization of aviation units and its associated command and control structure required little change and was employed with some success. The decentralization of some helicopter assets was the only significant modification to structure made by the Soviet command. It was at the operational and strategic level that the Soviets showed a great deal of flexibility and initiative in changing doctrine to maximize their fighting capabilities.

Certainly the Soviets followed the doctrinal approach when considering the mission assignments of fixed and rotary wing aircraft. The attack helicopter obviously was ideal for the counterinsurgency role against the Afghan rebels. Although used in the air preparation and air accompaniment phases of combat operations, its real strength lay in its ability to deliver large volume, responsive fires in the direct air

support role. Fixed wing aircraft were dedicated against deep targets in support of a Soviet program of area denial while attack helicopters concentrated on supporting close combat operations. The clear delineation of responsibilities between these two assets seemed to work well. The only criticism arises when, later in the war, the FROGFOOT and other more sophisticated fixed wing aircraft proved to be capable of supporting troops in close combat but were rarely utilized in that function. It is possible that the Soviets simply could not find a way to integrate high performance jet aircraft fully into the direct air support role. This failure to utilize all available air assets seems particularly significant considering the success of U.S. close air support operations by fixed wing aircraft in Vietnam. The more probable conclusion is that the Soviets simply do not believe fixed wing aircraft should provide air support for troops in close contact with the enemy. Their doctrine prior to the Afghan War clearly stated this view and the employment of fixed wing aircraft in the Afghan War clearly followed doctrine.

Tactically, the initial cadre of Soviet pilots who flew in Afghanistan seemed to be of two schools. The first group appeared to have an overly fearful respect for the limited counterair capabilities of the mujahidin and frequently failed to fly successful missions. Since most airmen were experiencing combat for the first time in their careers, it was certainly an understandable although unsatisfactory reaction. The second group of pilots displayed an almost cavalier attitude towards combat with the rebels that often resulted in the needless loss of aircraft and aircrews. Once a realistic appreciation developed for the nature of the war, Soviet pilots seemed to fall back

on the tactical skills they had learned in the Soviet Union. While needing some modification for the unique environment of Afghanistan, these skills proved to be very dependable. Interestingly, many of the tactical variants developed in the Afghan War have reappeared in the air forces of the Warsaw Pact; for example, the use of airborne scouts to direct attacks by HIND helicopters has been practiced in East Germany.<sup><61></sup> As the war progressed, the Soviets continued to improve the quality of their equipment as well. The introduction of the FROGFOOT and improved versions of the HIND attack helicopter significantly enhanced the tactical capabilities of Frontal Aviation units within the theater. Overall, the initially weak tactical performance of Soviet pilots should not be blamed on faulty doctrine, but on faulty application.

The poor showing by Soviet pilots brings to question the effectiveness of their training. It is obvious that the Soviets were ill-prepared to operate in the harsh conditions encountered in Afghanistan. This was especially true for the helicopter pilots who faced some unique, but not unheard of, problems. The lack of discipline evidenced by aircrews flying in the early part of the war also reflects on the quality of training. Aircrews who were unable or unwilling to apply sound tactical solutions in the heat of combat obviously received an inadequate amount of training. The lack of initiative displayed on these early missions simply reinforces the argument that the Soviet aircrews ordered to fight in Afghanistan had been improperly prepared for combat. It is important to note that Soviet military leaders have recognized these same faults in their training and have taken steps to correct them. The mere fact that a growing number of pilots in the

Soviet Air Force now have combat experience serves to improve the overall quality of the force significantly. Additionally, as these combat veterans return to the Soviet Union, they will pass on a wealth of knowledge and understanding to other less experienced comrades.<62>

#### SECTION V - CONCLUSIONS AND DOCTRINAL IMPLICATIONS

In the words of Soviet General V.G. Reznichenko, "Modern combined arms combat is . . . the development of high-momentum combat operations on the ground and in the air."<63> The Soviets have long recognized the importance of tactical aviation in both complementing and supplementing combat operations on the ground. The use of Frontal Aviation in Afghanistan certainly has followed this doctrinal precept; air operations in the Afghan War had only one purpose - supporting the ground forces fighting the mujahidin rebels. Has the tactical application of air support doctrine been successful in this war? In broad terms, the answer is a qualified "yes". There is no doubt that the attack helicopter has been the single most effective weapons system employed on the battlefield of Afghanistan. Its use in the direct air support role has been a singular bright spot in a long, draining war of exhaustion. Although doctrinally limited, fixed wing aviation also played a significant part in assisting the Soviets in their overall strategy against the rebels. At the tactical level, Frontal Aviation units have shown an overall trend of continuity and the reinforcement of doctrinal concepts developed before the war. The tactical procedures and techniques practiced and perfected prior to war were shown to be viable in Afghanistan. Training, initiative, and discipline all seemed

to suffer under the centralized command and control system of the Soviet military. Nevertheless, the Soviet pilot showed the ability to make changes, although often slowly and painfully. Having adapted to one type of combat environment, the Soviets now are faced with an entirely new situation since the arrival of Stinger missiles. The Stinger has given them a new set of problems that the Soviets are capable of meeting, but not necessarily in a timely and responsive fashion. The inability to respond quickly to unexpected challenges has been the greatest problem with the tactical application of air support doctrine in the Afghan War.

Are the lessons being learned in the Afghan War applicable to the Central European battlefield? Obviously, the geographical situations are so starkly different that any comparison is subject to question, but there is no doubt that the Soviets are bringing back their lessons to the Warsaw Pact. The development of army aviation, the use of scout helicopters, and improvements in fixed and rotary wing tactics are just a few of the "spinoffs" the Soviets have developed. Despite the problems with training, discipline, and initiative, the Soviets are acquiring extensive combat experience that is directly impacting on their force structure, pilot competence, and overall combat readiness.

There is one additional lesson to be drawn from the Soviet experience in Afghanistan and that is the impact of attack helicopters on the battlefield. The Afghan War has been the first opportunity for the Soviets to employ attack helicopters in combat. There is little doubt that the Soviets believe their doctrine has been successful and that they will employ similar concepts in the war against NATO. Is

there a doctrinal implication for the U.S. military in the Soviet use of fixed and rotary wing aircraft? Major Michael Combest, in a monograph on tactical airpower, noted that fixed wing close air support (CAS) is a supplementary measure on the battlefield; it reinforces the effects of artillery and attack helicopters rather than replaces them. However, the use of fixed wing CAS puts expensive weapons systems at extreme risk to achieve possibly marginal returns.<sup><64></sup> In the Soviet view, it is much easier and much more economical to use attack helicopters to fulfill this supplementary role. Certainly they have not chosen to totally ignore the possibility of fixed wing close air support. The Soviets have used fixed wing aircraft to support close combat operations in Afghanistan, but it has been the exception rather than the rule. Given the extensive air assets of Soviet Frontal Aviation, this system has worked very well for them. Under the budgetary constraints, training requirements, and force structure of the U.S. military, it simply may not be workable for American forces; however, it is surely worth considering.

A final question to address is whether the Soviets correctly judged the nature of future war. Looking at their early experience in Afghanistan, it is easy to conclude that the Soviets were very surprised to find themselves involved in an extended counterinsurgency. However, once involved in the conflict, there was little they could do but accept their current doctrine and modify it to fit the situation. The basic doctrine was successfully applied and the Soviets have proved capable of changing to meet new circumstances. Perhaps the broader lesson for any military establishment is that it is virtually impossible to predict the

nature of the next war with any real accuracy. Therefore, it is vital that the doctrine developed in peacetime be easily modified to fit the circumstances finally encountered in war. Doctrinal flexibility and agility are more than "buzzwords" used in high level conferences; they can be keys to success on the modern battlefields of tomorrow.

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